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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/627,093	07/25/2003	Richard D. Ciervo	AO694	2242

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EXAMINER

ALEXANDER, JOHN D

ART UNIT	PAPER NUMBER
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3762

DATE MAILED: 08/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/627,093	CIERVO, RICHARD D.	
	<b>Examiner</b>	<b>Art Unit</b>	
	John D. Alexander	3762	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 25 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on July 25, 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date August 3, 2004.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Specification*

The disclosure is objected to because of the following informalities: on line 29 of page 2, the phrase “an effort maintain” is grammatically awkward and should be replaced with --an effort *to* maintain--, and the phrase “figures” on line 26 of page 6 implies that multiple figures have been provided and thus should be replaced with --figure--. Appropriate correction is required.

### *Claim Objections*

Claim 17 is objected to because of the following minor informality: the phrase “for successive sampled heart rate *value*” on lines 3-4 of the claim is grammatically awkward. It is suggested that the phrase be replace with --for successive sampled heart rate *values*--. Appropriate correction is required.

### *Claim Rejections - 35 USC § 112*

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

**Claim 8** is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claim recites the limitation “the threshold minimum value” in line 8. There is insufficient antecedent basis for this limitation in the claim. When examining this claim as to its

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merits, examiner has assumed that “the threshold *minimum* value” should be --the threshold *maximum* value--.

**Claim 19** is also rejected under 35 U.S.C. 112, second paragraph. As written, the claim is a method for generating an *out of zone* alert if a sampled heart rate *fails* to be outside a target zone. Examiner believes that the intended method, as described on page 9 line 21 of the specification, is to generate an out of zone alert if a sampled heart rate fails to satisfy the condition of being *within* a target zone. Therefore it is suggested that “outside a Target Zone” of line 2 of the claim be changed to --within a Target Zone--. It is also suggested that the same change be made on page 4 lines 28 and 29 of the specification. These changes have been assumed, and the claim has been further examined on its merits.

#### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) The invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**Claims 1-14** are rejected under 35 U.S.C. 102(b) as being anticipated by Birnbaum et al (Patent No. 6405077). Birnbaum et al disclose a method applied in a personal non-invasive heart rate monitoring device that includes all of the limitations recited in these claims.

- Regarding **Claims 1 and 14**, Birnbaum et al disclose a method of generating an out of zone alert when a sampled biomedical value does not satisfy a condition, wherein the generation

of the out of zone alert is performed by an indicator (see Fig. 1, element 33), and the sampled biomedical value is determined in a heart rate monitoring system (Fig. 1; Col. 1, lines 7-20; Col. 3, line 19), and further wherein the indicator does not generate the out of zone alert when the sampled biomedical value fails to satisfy the condition until a sampled biomedical value is determined to satisfy the condition, the method comprising the steps of: determining when a sampled biomedical value satisfies the condition (Fig. 5, 6, & 7, elements t2 to t6; Col. 5, lines 57-63; Col. 8, lines 46-56); and thereafter, permitting the generation of the out of zone alert when the sampled biomedical value is determined not to satisfy the condition (Fig. 5, 6, & 7, dashed lines for “upper” and lower” thresholds of element LIM2 to LIM6; Col. 9, lines 61-65). Regarding the limitation that the indicator does not generate the out of zone alert until the sampled value is first determined to satisfy the condition, this is anticipated by Birnbaum et al’s “fourth, fifth, and sixth embodiments.” Here, the method includes supplying time information in the form of time periods “t1 to t7” that determine when the target zone thresholds and their respective alarms are enabled. In contrast to periods “TIME1 to TIME 7” that enable the out of zone alarms even during warm-up and cool-down, the periods t1 to t7 are used to enable and time the armed period of the target zones only beginning once the heart rate initially enters the target zone. Thereafter, the target zone alarms are enabled for the period, and any deviations outside the target zone boundaries trigger the respective alarm.

- Regarding **Claims 2 and 3**, Birnbaum et al disclose a method of generating an out of zone alert when a sampled heart rate value is below a threshold minimum value, wherein the generation of the out of zone alert is performed by an indicator, and the sampled heart rate

value is determined in a heart rate monitoring system, and further wherein the indicator does not generate the out of zone alert when the sampled heart rate value is below the threshold minimum value until the threshold minimum value has been reached, the method comprising the steps of: determining when a sampled heart rate value is at or above a threshold minimum value (Fig. 5, 6, & 7, elements t2, t4, & t6 and lower dashed lines for LIM2, LIM4, & LIM6); and permitting the generation of the out of zone alert when the sampled heart rate value falls below the threshold minimum value (Col. 9, lines 61-65). Regarding not enabling the indicator to generate the out of zone alert until the threshold minimum value has been reached and thereafter generating an alert when the sampled heart rate falls below the threshold minimum value, comments made above in rejection of Claims 1 and 14 apply here as well, wherein the target zone alarms are enabled once the heart rate initially rises above the minimum threshold into the target zone.

- Regarding **Claims 4 and 5**, Birnbaum et al further disclose repeatedly sampling heart rate values until a sampled heart rate value is at or exceeds the minimum threshold value (Fig. 1, elements 11, 18, & 32; Fig. 2; Col. 3, lines 19-44; Col. 5, lines 10-20). Furthermore, regarding the steps of maintaining the inability to generate out of zone alerts until a sampled heart rate value is determined to be equal to or greater than the threshold minimum value, determining a next sampled heart rate value and determining that it is less than threshold minimum value, and generating the out of zone alert, comments made above in rejections of Claims 1-3 and 14 apply here as well.
- Regarding **Claim 6**, Birnbaum et al further disclose that the generation of the out of zone alert is performed audibly and/or visually (Col. 6, lines 24-27).

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- Regarding **Claim 7**, Birnbaum et al further disclose the step of inputting the threshold minimum value into the heart rate monitoring system (Fig. 1, element 21; Col. 4, lines 55-59; Col. 9, lines 22-28).
- Regarding **Claims 8 and 9**, Birnbaum et al disclose a method of generating an out of zone alert when a sampled heart rate value is above a threshold maximum value, wherein the generation of the out of zone alert is performed by an indicator, and the sampled heart rate value is determined in a heart rate monitoring system, and further wherein the indicator does not generate the out of zone alert when the sampled heart rate value is above the threshold maximum value until the threshold maximum value is greater than a sampled heart rate value, the method comprising the steps of: determining when the threshold maximum value is greater than a sampled heart rate value (Fig. 5, elements t3 & t5 and upper dashed lines for LIM3 & LIM5); and permitting the generation of the out of zone alert when a subsequent sampled heart rate value is above the threshold maximum value (Col. 9, lines 61-65).  
  
Regarding not enabling the indicator to generate the out of zone alert until the threshold maximum value is greater than a sampled heart rate value and thereafter generating an alert when the sampled heart rate exceeds the threshold maximum value, comments made above in rejection of Claims 1 and 14 apply here as well, wherein the target zone alarms are enabled once the heart rate initially falls below the maximum threshold into the target zone.
- Regarding **Claims 10 and 11**, Birnbaum et al further disclose repeatedly sampling heart rate values until the maximum threshold value exceeds a sampled heart rate value (Fig. 1, elements 11, 18, & 32; Fig. 2; Col. 3, lines 19-44; Col. 5, lines 10-20). Furthermore, regarding the steps of maintaining the inability to generate out of zone alerts until the

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maximum threshold value exceeds a sampled heart rate value, determining a next sampled heart rate value and determining that it is greater than threshold maximum value, and generating the out of zone alert, comments made above in rejections of Claims 1, 8, 9, and 14 apply here as well.

- Regarding **Claim 12**, Birnbaum et al further disclose that the generation of the out of zone alert is performed audibly and/or visually (Col. 6, lines 24-27).
- Regarding **Claim 13**, Birnbaum et al further disclose the step of inputting the threshold maximum value into the heart rate monitoring system (Fig. 1, element 21; Col. 4, lines 55-59; Col. 9, lines 22-28).

**Claims 15, 16, 19, and 21** are rejected under 35 U.S.C. 102(b) as being anticipated by Chino et al (Patent No. 5308300). Chino et al disclose a method for controlling a training machine that utilizes target heart rate and includes all of the limitations recited in these claims.

- Regarding **Claim 15**, Chino et al disclose a method of generating an out of zone alert when a sampled heart rate value does not satisfy a condition, wherein the generation of the out of zone alert is performed by an indicator (Fig. 2, element 4d), and the sampled heart rate value is determined in a heart rate monitoring system (Fig. 2, elements 4b, 4c, & 4h), the method comprising the steps of: determining whether the sampled heart rate fails to satisfy a condition for more than a predetermined continuous period of time, and if so: suppressing further generation of the out of zone alert even if a next successive sampled heart rate value fails to satisfy the condition, and if not: generating the out of zone alert (Col. 11, lines 50-54; Col. 13, lines 17-22).



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- Regarding **Claim 16**, Chino et al further disclose that the step of determining whether the sampled heart rate fails to satisfy a condition for more than a predetermined continuous period of time comprises the steps of: initiating a timer with a predetermined period of time; determining that a successive sampled heart rate fails to satisfy the condition; and determining whether the predetermined period of time has elapsed (Col. 11, lines 50-54; Col. 13, lines 17-22).
- Regarding **Claim 19**, Chino et al further disclose that the condition is whether the sampled heart rate value is inside a Target Zone (Col. 11, lines 50-51; Col. 13, lines 17-20). Here, examiner considers that the broadest reasonable interpretation of the limitation “Target Zone” is met by Chino et al’s range of heart rate values below the upper limit value.
- Regarding **Claim 21**, Chino et al further disclose that the condition is whether the sampled heart rate value is below a threshold maximum value (Col. 11, lines 50-51; Col. 13, lines 17-20).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 15-21** are rejected under 35 U.S.C. 103(a) as being unpatentable over Oglesby et al (Patent No. 6783482).

- Regarding **Claims 15, 16, and 19-21**, Oglesby et al disclose a microprocessor based exercise device control system that includes a method of generating an out of zone alert when a sampled heart rate value does not satisfy a condition, wherein the generation of the out of zone alert is performed by an indicator, and the sampled heart rate value is determined in a heart rate monitoring system (Fig. 13; Col. 7, lines 64-67; & Col. 8, lines 1-45). The disclosed method includes not generating the out of zone alert when the sampled heart rate is outside a target zone, including below a threshold minimum or above a threshold maximum, until a sampled heart rate is first determined to be within the target zone. Oglesby et al do not disclose determining whether the sampled heart rate fails to satisfy a condition for more than a predetermined continuous period of time, and if so: suppressing further generation of the out of zone alert even if a next successive sampled heart rate value fails to satisfy the condition, and if not: generating the out of zone alert. However, examiner considers that, after some particular amount of time during which the user's heart rate continuously remains outside the maximum or minimum thresholds of a target zone after initially reaching the target zone, it would be reasonable to assume that the user has discontinued the effort to retain his/her heart rate within the target zone. For example, the exerciser may have become exhausted or rushed for time. Under such circumstances, it would appear that, for the moment, the user's workout program has changed. For example, the exerciser may have decided to run at a slower pace for a period of time before attempting to re-attain the target zone, or he/she may have decided to sprint for a period of time, or he/she may have decided

to enter the cool-down period early. Oglesby et al teach that it is desirable to provide only that information to the user that is most useful for the particular workout that is he/she is performing at the moment (Col. 4, lines 23-26) because the room for displayed information is limited and non-relevant information can be annoying to the user (Col. 4, lines 21-23). The out of zone alert proposed by Oglesby et al is in the form of a displayed message with the relatively long text string, "LEAVING TARGET HEART RATE ZONE." Therefore, it would have been obvious to one of ordinary skill in the art at the time of applicant's invention to modify the exercise control system of Oglesby et al, from the motivation provided therein, to incorporate the method of suppressing further generation of the out of zone alert if it is determined that the sampled heart rate fails to remain within a target zone for more than a predetermined continuous period of time, thereby signaling that the user has discontinued the effort to retain his/her heart rate within the target zone. Furthermore, Oglesby et al disclose that their control system includes functionality that permits the user to change the parameters of a workout program on the fly by pressing program buttons without having to stop the treadmill and start a new workout program (Col. 3, lines 60-67 & Col. 4, lines 1-2). Here, Oglesby provides a manual means to accomplish the same result as that provided by the automatic means of applicant's Claim 15. It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to suppress further generation of the out of zone alert if it is determined that the sampled heart rate fails satisfy a condition for more than a predetermined continuous period of time, since it has been held that broadly providing an automatic means to replace manual activity which has accomplished the same result involves only routine skill in the art (*In re Venner*, 120 USPQ 192). Here, the use of

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continuous timing mechanisms in automation is well known in the art. Therefore, it would have been obvious to modify the exercise control system of Oglesby et al to obtain the invention as specified in Claims 15, 16, and 19-21.

- Regarding **Claims 17 and 18**, as related above, Oglesby et al teach that it is desirable to provide only that information to the user that is most useful for the particular workout that is he/she is performing at the moment (Col. 4, lines 23-26) because the room for displayed information is limited and non-relevant information can be annoying to the user (Col. 4, lines 21-23). Therefore, after deciding that the user has momentarily changed workout modes by discontinuing the effort to retain his/her heart rate within the target zone, it would follow that the exercise control system would continue the corresponding suppression of the out of zone alert as long as the user remains in the other mode. However, if the user's heart rate were to re-enter the target zone, it would be reasonable to assume that the user has decided to resume the effort to retain his/her heart rate within the target zone. For example, the exerciser may have caught a second wind. Under such circumstances, it would appear that the user's workout program has changed back and that the exercise control system should return to the original program shown in Fig. 13, elements 172 and 176-182. Therefore, it would have been further obvious to one of ordinary skill in the art at the time of applicant's invention to modify the exercise control system of Oglesby et al to incorporate the method of continually suppressing further generation of the out of zone alert for successive heart rate values that fail to satisfy the condition until a sampled value satisfies the condition, then indicating that the sampled value has satisfied the condition, and thereafter generating an out of zone alert if a successive value fails to satisfy the condition.

### *Conclusion*

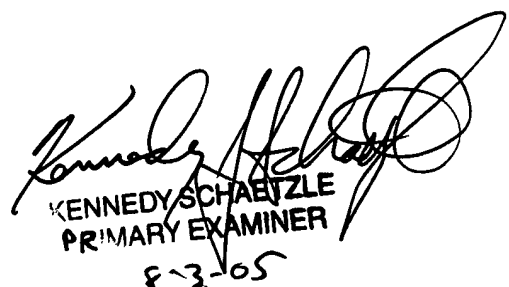
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Lapeyre (Patent No. 4278095) discloses an exercise monitoring system that provides an alert when the user's heart rate departs from a target zone. Matsumoto et al (Patent No. 4911427) disclose a microcomputer-assisted training guide that enables out of zone alerts once it is determined that the user has reached a target heart rate. Su (Patent No. 5667459) discloses a computerized exercise game machine that automatically exits to a cool-down mode if the user fails to maintain speed within a target zone for a continuous period of time. Yasukawa et al (Patent No. 5795301) discloses a portable pulse-measuring device that indicates when the user has reached a target heart rate and thereafter indicates any deviations therefrom.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John D. Alexander whose telephone number is (571) 272-8756. The examiner can normally be reached on Monday-Friday, 9:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Angela Sykes can be reached on (571) 272-4955. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JDA



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PRIMARY EXAMINER  
8-3-05